

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Helmut MANGOLD *et al.*

Appl. No. unknown

Filed: December 19, 2001

For: PYROGENIC OXIDES DOPED  
WITH POTASSIUM

Art Unit: unknown

Examiner: n/a

Atty. Docket No. 39509-175287

Customer No.



26694

PATENT TRADEMARK OFFICE

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents  
Washington, DC 20231

Sir:

Please amend the claims as follows:

1. (Amended) A pyrogenically produced oxides of metals or metalloids which oxides are doped by means of aerosol with potassium, characterized in that the base component is an oxide that is pyrogenically produced by flame oxidation or flame hydrolysis and was doped with potassium from 0.000001 to 20 % by wt. and the doping component is a salt of potassium, the BET surface of the doped oxide is between 1 and 1000 m<sup>2</sup>/g and the distribution of particle size is at least 0.7.

2. (Amended) The pyrogenically produced oxides of metals or metalloids in accordance with claim 1, further characterized in that the pH of the doped, pyrogenic oxide is more than 5, measured in a 4 % aqueous dispersion.
3. (Amended) The pyrogenically produced oxides of metals or metalloids in accordance with claim 1, further characterized in the doping amount is in a range of 1 to 20,000 ppm and the absorption of dibutylphthalate does not allow any end point to be recognized.
4. (Amended) A method of producing potassium-doped pyrogenic oxides comprising sequentially feeding a gaseous mixture, including a pyrogenic oxide precursor, and an aerosol to form an aerosol-gaseous mixture, which is fed into a flame under conditions suitable for producing pyrogenic oxides by flame oxidation or flame hydrolysis from the precursor, to form the potassium-doped pyrogenic oxides, and separating the formed pyrogenic-doped oxides from the reacted aerosol-gaseous mixture, wherein the aerosol is homogeneously mixed before the reaction with the gaseous mixture and is prepared from a potassium salt solution.
5. (Amended) A composition comprising doped pyrogenic oxides in accordance with claim 1.

Kindly add the following claims:

6. (NEW) The method of claim 4 wherein the aerosol is produced by atomization by means of an aerosol generator.
7. (NEW) The method of claim 6 wherein the atomization involves a gas-atomizing (two-fluid) nozzle method.

REMARKS

It is respectfully submitted that the present claims are in condition for examination on the merits. However, if any questions remain, the Examiner or other PTO official is encouraged to call the undersigned at (202) 513-4614 expedite this application.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 22-0261**. However, the Assistant Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Respectfully submitted,



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**APPENDIX**

**Amended claims only (with markings to show changes)**

2. (Amended) A [Pyrogenically] pyrogenically produced oxides of metals or metalloids which oxides are doped by means of aerosol with potassium, characterized in that the base component is an oxide that is pyrogenically produced [in the manner of ] by flame oxidation or [preferably of] flame hydrolysis and was doped with potassium from 0.000001 to 20 % by wt. and [in that the doping amount is preferably in a range of 1 to 20,000 ppm,] the doping component is a salt of potassium, the BET surface of the doped oxide is between 1 and 1000 m<sup>2</sup>/g and [the breadth of ]the distribution of particle size is at least 0.7.

2. (Amended) The pyrogenically [Pyrogenically] produced oxides of metals or metalloids [which oxides are doped by means of aerosol with potassium] in accordance with claim 1, further characterized in that [the base component is an oxide that is pyrogenically produced in the manner of flame oxidation or preferably of flame hydrolysis and was doped with potassium from 0.000001 to 20 % by wt., that] the pH of the doped, pyrogenic oxide is more than 5, measured in a 4 % aqueous dispersion[, and that the BET surface of the doped oxide is between 1 and 1000 m<sup>2</sup>/g].

3. (Amended) The pyrogenically [Pyrogenically] produced oxides of metals or metalloids [which oxides are doped by means of aerosol with potassium] in accordance with claim 1, further characterized in that [the base component is an oxide that is pyrogenically produced in the manner of flame oxidation or preferably of flame hydrolysis and was doped with potassium from 0.000001 to 20 % by wt., that] the doping amount is [preferably] in a range of 1 to 20,000 ppm and the absorption of dibutylphthalate does not allow any end point to be recognized[, and that the BET surface of the doped oxide is between 1 and 1000 m<sup>2</sup>/g].

4. (Amended) A method of producing potassium-doped pyrogenic oxides[ doped by means of aerosol with potassium according to claim 1, characterized in that] comprising sequentially feeding a gaseous mixture, including a pyrogenic oxide precursor, and an aerosol to form an aerosol-gaseous mixture, which is fed into a flame [like the one used] under conditions suitable for [to produce] producing pyrogenic oxides [in the manner of] by flame oxidation or [preferably of] flame hydrolysis from the precursor, to form the potassium-doped pyrogenic oxides, [that this is homogeneously mixed before the reaction with the gaseous mixture of flame oxidation or flame hydrolysis, then the aerosol-gaseous mixture is allowed to react in a flame and the pyrogenic, potassium-doped oxides produced are separated in a known manner], and separating the formed pyrogenic-doped oxides from the reacted aerosol-gaseous mixture [gas flow], wherein the aerosol is homogeneously mixed before the reaction with the gaseous mixture [, that] and is prepared from a potassium salt solution [containing the potassium salt serves as starting product of the aerosol and that the aerosol is produced by atomization by means of an aerosol generator preferably in accordance with the gas-atomizing (two-fluid) nozzle method].

5. (Amended) [The use of] A composition comprising doped pyrogenic oxides [doped with potassium by means of aerosol] in accordance with claim 1 [as filler, carrier material, catalytically active substance, starting material for producing dispersions, as polishing material (CMP applications), base ceramic material, in the electronic industry, in the cosmetic industry, as additive in the silicon industry and rubber industry, for adjusting the rheology of liquid systems, for the stabilization of heat protection and in the paint industry].